



Validation and Cultural Adaptation of Persian Version of Multidimensional Health Assessment Questionnaire in Rheumatoid Arthritis Patients

Elham Aflaki¹, Faezeh Sehatpour², Sheida Banihashemi³

¹Autoimmune Disease Research Centre, Shiraz University of Medical Sciences, Shiraz, Iran, ²Department of Internal Medicine, Shiraz University of Medical Sciences, Shiraz, Iran, ³Department of Community Medicine, Shiraz University of Medical Sciences, Shiraz, Iran

ABSTRACT

Background: Rheumatoid arthritis (RA) is a multidimensional disease. In addition to quantitative factors, qualitative factors play an important role in the progress and outcome of the diseases. One of the most effective methods of collecting qualitative information is questionnaires reported by patients. The data obtained from the questionnaires are as important as the clinical criteria. Multidimensional health assessment questionnaire (MDHAQ) is one of the latest questionnaires that provide useful information in a short time. **Objectives:** To investigate the reliability and validity of the Persian form of MDAHAQ for the use of Iranian patients. **Method:** Two groups of participants were selected for this study. The validity test group included 110 patients, and the reliability test group included 140 patients. Translation and adaptation of MDHAQ were performed by using Guillemin guidelines. The reliability was tested by using test-retest and Cronbach's alpha for internal consistency. Persian version of the health assessment questionnaire (HAQ) was used for assessing the criterion validity. The correlation between the MDHAQ score and Disease Activity Score-28 (DAS28), Clinical Disease Activity Index (CDAI), and the Persian version of the health assessment questionnaire (HAQ) was evaluated using the Spearman coefficient. Discriminant validity was tested in groups of patients based on two varied disease activities based on CDAI and DAS28. **Results:** Test-retest with intra-class correlation coefficient (ICC) gave a coefficient of 0.865(95% CI: 0.809, 0.904) for physical function and 0.786(95% CI: 0.698, 0.848) for psychological items. Cronbach's alpha was 0.885 and 0.705 for physical function and psychological dimensions respectively. The Persian version of the MDHAQ had a good to strong correlation with the Persian version of the HAQ (ranging from 0.604 to 0.962) and also with CDAI (ranging from 0.616 to 0.838) and a moderate correlation with DAS28 (ranging from 0.415 to 0.439). **Conclusion:** The Persian form of MDHAQ is a reliable and valid instrument for the routine evaluation of RA patients in rheumatology clinics in Iranian RA patients.

Corresponding Author:

Faezeh Sehatpour MD, MPH
Department of Internal Medicine, Shiraz
University of Medical Sciences
Namazee Hospital, Shiraz, Iran
Tel.: +98-71-36474316
Fax: +98-71-36474316
E-mail: Faezesehatpour@yahoo.com

Mediterr J Rheumatol 2024;35(1):83-93

<https://doi.org/10.31138/mjr.130723.pvm>

Article Submitted: 13 Jul 2023; Revised Form: 21 Sep 2023; Article Accepted: 22 Sep 2023; Available Online: 08 Jan 2024

Keywords: rheumatoid arthritis, multidimensional health assessment questionnaire, validity, reliability

outcome of RA patients in rheumatology clinic in Iranian RA patients. Further research and more evidence are needed for the modification of the questionnaire based on different races and dialects of the Iranian population in different regions.

AUTHOR CONTRIBUTIONS

Elham Aflakie: study designing, reviewing, and editing, supervision. Faezeh Sehatpour: data collecting and analysis, writing original draft, reviewing, and editing. Sheida Banihashemi: reviewing and editing. All authors read and approved the final manuscript.

ACKNOWLEDGEMENTS

The authors would like to thank Shiraz University of Medical Sciences in Shiraz, Iran, the Centre for Development of Clinical Research of Nemazee Hospital, and Dr. Nasrin Shokrpour for editorial assistance.

FUNDING

The authors received no financial support for the research or publication of this article.

AVAILABILITY OF DATA AND MATERIALS

The datasets used and analysed during the current study are available from the corresponding author on a reasonable request basis.

ETHICAL APPROVAL AND INFORMED CONSENT

Informed consent was obtained from all subjects or their legal guardians. All methods were carried out following relevant guidelines and regulations and approved by the ethics committee of SUMS with the contract number IR.SUMS.MED.REC.1398.248.

CONSENT FOR PUBLICATION

Not applicable.

CONFLICT OF INTEREST

The authors declare no competing interests.

REFERENCES

- Pincus T. A multidimensional health assessment questionnaire (MDHAQ) for all patients with rheumatic diseases to complete at all visits in standard clinical care. *Bull Hosp Jt Dis* 2007;65(2):150.
- Maska L, Anderson J, Michaud K. Measures of functional status and quality of life in rheumatoid arthritis: Health Assessment Questionnaire Disability Index (HAQ), Modified Health Assessment Questionnaire (MHAQ), Multidimensional Health Assessment Questionnaire (MDHAQ), Health Assessment Questionnaire II (HAQ-II), Improved Health Assessment Questionnaire (Improved HAQ), and Rheumatoid Arthritis Quality of Life (RAQoL). *Arthritis Care Res* 2011;63(S11):S4-S13.
- Pincus T, Swearingen C, Wolfe F. Toward a multidimensional Health Assessment Questionnaire (MDHAQ): assessment of advanced activities of daily living and psychological status in the patient-friendly health assessment questionnaire format. *Arthritis Rheum* 1999;42(10):2220-30.
- Affleck G, Pfeiffer C, Tennen H, Fifield J. Social support and psychosocial adjustment to rheumatoid arthritis quantitative and qualitative findings. *Arthritis Rheum* 1988;1(2):71-7.
- Castrejon I, Yazici Y, Samuels J, Luta G, Pincus T. Discordance of global estimates by patients and their physicians in usual care of many rheumatic diseases: association with 5 scores on a Multidimensional Health Assessment Questionnaire (MDHAQ) that are not found on the Health Assessment Questionnaire (HAQ). *Arthritis Care Res* 2014;66(6):934-42.
- Beaton DE, Bombardier C, Guillemin F, Ferraz MB. Guidelines for the process of cross-cultural adaptation of self-report measures. *Spine (Phila Pa 1976)* 2000;25(24):3186-91.
- Pincus T, Sokka T, Kautiainen H. Further development of a physical function scale on a MDHAQ [corrected] for standard care of patients with rheumatic diseases. *J Rheumatol* 2005;32(8):1432-9.
- Pincus T, Yazici Y, Bergman M. Development of a multi-dimensional health assessment questionnaire (MDHAQ) for the infrastructure of standard clinical care. *Clin Exp Rheumatol* 2005;23(5):S19.
- Yokogawa N, Kaneko T, Nagai Y, Nunokawa T, Sawaki T, Shiroto K, et al. AB1149 A Simple Assessment of Psychological Distress in Rheumatoid Arthritis Patients Using Multidimensional Health Assessment Questionnaire (MDHAQ): A Validation Study of Psychological MDHAQ. *Ann Rheum Dis* 2015;25(2):264-9.
- Josefsson KA, Ek Dahl C, Jakobsson U, Gard G. Swedish version of the multi dimensional health assessment questionnaire-translation and psychometric evaluation. *BMC Musculoskelet Disord* 2013;14(1):178.
- El Miedany Y, El Gaafary M, Youssef SS, Ahmed I. Validity of the Developed Arabic Multidimensional Health Assessment Questionnaire for use in standard clinical care of patients with rheumatic diseases. *Int J Rheum Dis* 2008;11(3):224-36.
- DeWalt D, Reed G, Pincus T. Further clues to recognition of patients with fibromyalgia from a simple 2-page patient multidimensional health assessment questionnaire (MDHAQ). *Clin Exp Rheumatol* 2004;22:453-61.
- Uhlig T, Haavardsholm EA, Kvien TK. Comparison of the Health Assessment Questionnaire (HAQ) and the modified HAQ (MHAQ) in patients with rheumatoid arthritis. *Rheumatology (Oxford)*. 2005;45(4):454-8.
- Aletaha D, Neogi T, Silman AJ, Funovits J, Felson DT, Bingham III CO, et al. 2010 rheumatoid arthritis classification criteria: an American College of Rheumatology/European League Against Rheumatism collaborative initiative. *Arthritis Rheum* 2010;62(9):2569-81.
- Rastmanesh R, Rabiee S, Shaabani Y, Mazinani H, Ebrahimi AA, Jamshidi AR. Validation of the Persian version of the Stanford Health Assessment Questionnaire (HAQ) in patients with rheumatoid arthritis. *J Paramed Sci* 2010;1(1):2008-496X.
- Van Riel P. The development of the disease activity score (DAS) and the disease activity score using 28 joint counts (DAS28). *Clin Exp Rheumatol* 2014;32(5 Suppl 85):S65-74.
- Aletaha D, Smolen J. The Simplified Disease Activity Index (SDAI) and the Clinical Disease Activity Index (CDAI): a review of their usefulness and validity in rheumatoid arthritis. *Clin Exp Rheumatol* 2005;23(5):S100.
- Pincus T, Swearingen CJ, Bergman M, Yazici Y. RAPID3 (Routine Assessment of Patient Index Data 3), a rheumatoid arthritis index without formal joint counts for routine care: proposed severity categories compared to disease activity score and clinical disease activity index categories. *J Rheumatol* 2008;35(11):2136-47.
- Van Riel P, Renskers L. The Disease Activity Score (DAS) and the Disease Activity Score using 28 joint counts (DAS28) in the management of rheumatoid arthritis. *Clin Exp Rheumatol* 2016;34(5 Suppl 101):S40-S4.
- Smolen J, Aletaha D. Scores for all seasons: SDAI and CDAI. *Clin Exp Rheumatol* 2014;32(5 Suppl 85):75-9.
- Guillemin F, Bombardier C, Beaton D. Cross-cultural adaptation of health-related quality of life measures: literature review and proposed guidelines. *J Clin Epidemiol* 1993;46(12):1417-32.
- Song Y, Zhu L-a, Wang S-I, Leng L, Bucala R, Lu L-J. Multi-dimensional health assessment questionnaire in China: reliability,